

Records of Items Used As Known Materials

1 Purpose

This document sets forth the procedures regarding records of items used as known materials and supplements the requirements in the FBI Laboratory *Quality Assurance Manual (QAM)* and the FBI Laboratory *Operations Manual (LOM)*.

2 Scope

These procedures apply to case working personnel conducting work in explosives chemistry and explosives and hazardous devices who use known materials in casework.

3 Definitions

3.1 Known Material

The term “known” refers to knowing the source, or origin, of a material and has no relationship to knowledge of material chemical or physical properties (e.g., concentration, homogeneity, density) as required for a reference material.

Known materials can be used during the examination of energetic materials and explosive device components (such as, but not limited to, detonators, detonating cord, and batteries). Known materials do not have to be verified. The same analytical examinations will be performed on all items, regardless of the source.

Known materials usually fall into one of the following categories:

- Commercial products: Items that can be purchased by the general public (e.g., pyrotechnics, batteries, clocks).
- Manufacturer’s samples: Samples that are acquired directly from the manufacturer (e.g., detonators, detonating cord).
- Other sources: Samples acquired from sources (e.g., other government agencies, other laboratories).
- Reference collection samples: Samples from the above sources for reference collections/databases established by an FBI Laboratory unit(s) (e.g., Smokeless Powder Database, Detonator Database).

3.2 Reference Collection

A reference collection includes data or materials of known origin or property, which are maintained for identification, comparison, or interpretation purposes. Reference collection items will be fully recorded, uniquely identified, and properly controlled.

There is no requirement for measurement traceability of reference collection items. However, reference collection items must be traceable to their origin. The history of each item must be known and recorded.

4 Procedures

4.1 Records for Known Materials

Most commercial products have a trade name, the name of the manufacturer, the product size (e.g., 100-foot roll, 2.5 oz.), and possibly a lot number and expiration date on the label. Retain the original label with the product when possible. Retain any related product literature, data specification sheets, or hazard information sheets provided by the manufacturer or distributor of the material, as appropriate.

The following information (if available) will appear either on the outer storage container, on a tag/label attached to the product, or recorded in the Explosives Reference Tool (EXPeRT) database or the Explosives Reference File (ERF) (or equivalent). A unique identifier will relate a product to a database entry.

- Full name of product
- Name of manufacturer/distributor/source
- Size of product and type of container (e.g., 12 oz. can, 16 oz. bottle)
- Lot number
- Expiration date, if applicable

Optional Information:

- Date of acquisition
- Initials of purchaser/acquirer
- Name and address of the place where obtained
- Name of contact at the manufacturer/distributor/source
- Any other relevant information that characterizes the sample

4.2 Use of Known Materials

Known materials may be maintained and used for identification, comparison, or interpretation purposes or for research and evaluation of instrumentation and equipment.

At the time of use, include the relevant information from the label or cite the database's unique identifier in the case notes.

4.3 Storage of Known Materials

The known material will be stored following manufacturer's recommendations.

Known materials that have been diluted in a solvent should be stored in a refrigerator unless indicated otherwise by the manufacturer or analytical standard operating procedure (SOP).

Dry chemicals will be stored according to manufacturer recommendations.

All known materials should be stored in a central location and made available to others in an FBI Laboratory unit(s).

4.4 Transportation of Known Materials

When a known material (which is deemed a Department of Transportation (DOT) hazardous material), is shipped or transported outside the FBI Laboratory, the preparer will ensure that the material is packaged in accordance with DOT shipping regulations, as appropriate. When a commercial shipper is used, such as FedEx, the individual responsible for packaging the known material will comply with all regulations set forth by DOT and the commercial shipping company, as appropriate. When a known material is transported by FBI vehicle or aircraft, the material will be packaged appropriately to prevent the possibility of breakage, contamination, or other alterations to the material.

5 Limitations

Limitations may be specific to a particular known material (e.g., if the known material has an expiration date, if the manufacturer changes the formulation of their product).

6 Safety

Safety protocols contained within the FBI Laboratory Safety Manual will be observed at all times. This manual also contains information on the proper handling and disposal of all chemicals.

Standard precautions will be taken for the handling of all chemicals, reagents, and standards. Some of the chemicals may be carcinogenic or present other personnel hazards. Appropriate personal protective equipment will be used when handling any chemical and when performing any type of analysis.

The handling of some explosive materials is hazardous due to potential ignition by heat, shock, friction, impact, or electrostatic discharge. Personnel should work with the smallest quantities of material that are required for the analysis (such as a few grams) and properly store larger quantities in approved containers.

7 References

FBI Laboratory Quality Assurance Manual, Federal Bureau of Investigation, Laboratory Division, latest revision.

FBI Laboratory Operations Manual, Federal Bureau of Investigation, Laboratory Division, latest revision.

FBI Laboratory Safety Manual, Federal Bureau of Investigation, Laboratory Division, latest revision.

Rev. #	Issue Date	History
3	12/16/2019	Removed SAU Chief from approval lines. Updated reference collection definition in 3.2 to comply with LOM.
4	07/15/2020	Removed fire debris from section 2 and removed Fire Debris Technical Leader from approval lines. Updated sections 3.1 and 4.1 for clarity. Updated section 6.

Approval

Redacted - Signatures on File

Explosives Chemistry
Technical Leader -

Date: 07/14/2020

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QA Approval

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